

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listing of the claims in this application.

Listing of the Claims:

1. (Currently amended) A process for preparing substantially pure 3-aminomethyl-3,5,5-trimethylcyclohexylamine (isophoronediamine, IPDA) having a cis/trans isomer ratio of at least 73/27, comprising the following steps:
 - a) providing crude IPDA having a cis/trans isomer ratio of <73/27;
 - b) purifying and separating, by distillation or by crystallization, the crude IPDA into a fraction having a cis/trans isomer ratio of at least 73/27 and a fraction having a cis/trans isomer ratio of less than 63/37;
 - c) isomerizing the fraction of substantially pure IPDA having a cis/trans isomer ratio of less than 63/37 obtained in step b) to IPDA having a cis/trans isomer ratio in the range from 63/37 to 66/34 in the presence of H₂, NH₃ and a hydrogenation catalyst and recycling it into step a) of the process.
2. (Original) A process as claimed in claim 1, wherein the crude IPDA is purified and separated in step b) of the process by distillation.
3. (Original) A process as claimed in claim 2, wherein step b) of the process is carried out in two spatially separated distillation columns.
4. (Original) A process as claimed in claim 3, wherein at least one of the distillation columns is a diving wall column.
5. (Previously presented) A process as claimed in claim 1, wherein the IPDA is separated in step b) of the process into a fraction having a cis/trans isomer ratio in the range from 73/27 to 76/24 and a fraction having a cis/trans isomer ratio of less than 63/37.

6. (Previously presented) A process as claimed in claim 1, wherein crude IPDA having a cis/trans isomer ratio of $\leq 70/30$ is provided in step a) of the process.
7. (Previously presented) A process as claimed in claim 1, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, gold, iron, cobalt, nickel, rhenium, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, molybdenum and tungsten.
- 8.-10 (Cancelled)
11. (Previously presented) A process as claimed in claim 1, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, iron, cobalt, nickel, ruthenium, rhodium, palladium, osmium, iridium and platinum.
12. (Previously presented) A process as claimed in claim 1, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, cobalt, nickel, ruthenium, iridium, rhodium, palladium and platinum.
13. (Previously presented) A process as claimed in claim 2, wherein the IPDA is separated in step b) of the process into a fraction having a cis/trans isomer ratio in the range from 73/27 to 76/24 and a fraction having a cis/trans isomer ratio of less than 63/37.
14. (Previously presented) A process as claimed in claim 3, wherein the IPDA is separated in step b) of the process into a fraction having a cis/trans isomer ratio in the range from 73/27 to 76/24 and a fraction having a cis/trans isomer ratio of less than 63/37.
15. (Previously presented) A process as claimed in claim 4, wherein the IPDA is separated in step b) of the process into a fraction having a cis/trans isomer ratio in the range from 73/27 to 76/24 and a fraction having a cis/trans isomer ratio of less than 63/37.

16. (Previously presented) A process as claimed in claim 2, wherein crude IPDA having a cis/trans isomer ratio of $\leq 70/30$ is provided in step a) of the process.
17. (Previously presented) A process as claimed in claim 3, wherein crude IPDA having a cis/trans isomer ratio of $\leq 70/30$ is provided in step a) of the process.
18. (Previously presented) A process as claimed in claim 4, wherein crude IPDA having a cis/trans isomer ratio of $\leq 70/30$ is provided in step a) of the process.
19. (Previously presented) A process as claimed in claim 5, wherein crude IPDA having a cis/trans isomer ratio of $\leq 70/30$ is provided in step a) of the process.
20. (Previously presented) A process as claimed in claim 2, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, gold, iron, cobalt, nickel, rhenium, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, molybdenum and tungsten.
21. (Previously presented) A process as claimed in claim 3, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, gold, iron, cobalt, nickel, rhenium, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, molybdenum and tungsten.
22. (Previously presented) A process as claimed in claim 4, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, gold, iron, cobalt, nickel, rhenium, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, molybdenum and tungsten.

23. (Previously presented) A process as claimed in claim 5, wherein the hydrogenation catalyst used in step c) of the process is a catalyst comprising at least one transition metal selected from the group of copper, silver, gold, iron, cobalt, nickel, rhenium, ruthenium, rhodium, palladium, osmium, iridium, platinum, chromium, molybdenum and tungsten.